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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,559	10/19/2005	Gregory John Nelson	NL 030445	4048
24737 7590 05/08/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER TRAN, THUY V	
			ART UNIT 2821	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/553,559	Applicant(s) NELSON ET AL.	
	Examiner Thuy V. Tran	Art Unit 2821	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/19/05 & prel. amendment conc. filed.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 8-10, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This Office Action is in response to the Applicants' communication filed on 10/19/2005 and preliminary amendment concurrently filed therewith. In virtue of this amendment, claims 1-15 are currently presented in the instant application.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawings***

2. The drawings submitted on 10/19/2005 are accepted.

#### ***Abstract Objection***

3. The abstract of the disclosure is objected to because it contains the word "means" therein. Correction is required. See MPEP § 608.01(b).

#### ***Claim Objections***

4. Claims 14-15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. "A low-pressure mercury vapor discharge lamp" recited in lines 1-2 of claim 14 has already been in claim 1; and "An extension means" recited in lines 1-2 of claim 14 has already been in claim 1.
5. Claims 1, 4, 11, and 13 are objected to because of the following informalities:  
  
Claim 1, line 19, "l<sub>md</sub>" should be placed in parentheses as --(l<sub>md</sub>)-- (See MPEP § 608.01(m));

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Claim 4, line 2, "the" (first occurrence) should be changed to --a--;

Claim 4, line 2, " $l_{em}$ " should be placed in parentheses as --( $l_{em}$ )-- (See MPEP § 608.01(m));

Claim 4, line 3, " $l_{dl}$ " should be placed in parentheses as --( $l_{dl}$ )-- (See MPEP § 608.01(m));

Claim 11, line 2, "circuits of the extension means (2)" should be replaced with --external ballast circuit and external starter circuit--; and

Claim 13, line 5, "plaeced" should be changed to --placed--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 3, 4, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 3, the recitation "characterized in that ... preferably between  $2.10^5$  and  $3.10^5$  Pa" in lines 1-4 renders the claim indefinite since it is not certain which one of said pressure ranges is of the claimed invention. Clarification is required.

With respect to claim 4, the recitation "characterized in that ... preferably in a range from 0.92 to 0.97" in lines 1-9 renders the claim indefinite since it is not certain which one of said ratio ranges is of the claimed invention. Clarification is required.

With respect to claim 11, the recitation "characterized in that ... an inductance" renders the claim indefinite since it appears to be mis-descriptive. In light of the submitted specification

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of the disclosure, page 11, line 10, and more clearly in Fig. 2, the external ballast circuit includes an inductor [8] and there is no inductor provided within the external starter circuit. Clarification is required.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-7 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al. (U.S. Patent No. 4,163,176; hereinafter "Cohen") in view of Otsuka et al. (U.S. Patent No. 3,780,329; hereinafter "Otsuka").

With respect to claims 1 and 14-15, Cohen discloses, in Fig. 1, an assembly of an elongate fluorescent lamp [1] and an elongate extension means [5], the elongate fluorescent lamp [1] comprising a light-transmitting discharge vessel [8] enclosing in a gastight manner, a discharge space (within vessel [8] and between electrodes [2]; see Fig. 1), the discharge vessel [8] being provided with a luminescent layer (which is phosphor coating; see col. 1, lines 43-45), electrode [2] being arranged in the discharge space for maintaining a discharge in the discharge space, the elongate extension means [5] being provided for connection to the elongate fluorescent lamp (discharge lamp) [1], the extension means [5] comprising an inductance (see col. 1, lines 30-34),

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and the length of the elongate fluorescent lamp [1] together with the length of the extension means [5] being adapted to fit a predetermined mounting distance of standard fluorescent discharge lamps (see Abstract, lines 3-5). Cohen, however, does not explicitly teach a filling of mercury and a rare gas mixture and at least 50% by volume of krypton being comprised of in the rare gas mixture.

Otsuka discloses, in Fig. 1, an elongate fluorescent lamp comprising a filling of mercury and a rare gas mixture (see col. 3, lines 35-39) and a percentage of 52% by volume of krypton being comprised of in the mixture (see col. 3, lines 31-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the elongate fluorescent lamp assembly of Cohen with a filling of mercury and a rare gas mixture of 52% by volume of Krypton, or at least 50% by volume of Krypton as claimed, so as to improve the lamp luminous flux, low power consumption, and high efficiency since such an arrangement of gas filling and mixture in the elongate fluorescent lamp for the stated purpose has been well known in the art as evidenced by the teaching of Otsuka (see col. 3, lines 43-50).

With respect to claim 2, the combination of Cohen and Otsuka disclose all of the claimed limitations, as expressly recited in claim 1, except for the impedance of the inductance in the extension means being in a range between 5% and 30% of the inductance of an external ballast circuit [B] (see Otsuka; Fig. 1; col. 1, lines 25-27). However, this difference is not of patentable merit since it has been well known in the art that inductor can be used as a current limiting element and its corresponding inductance or impedance can be determined for a desired current level flowing through it. Accordingly, to implement the lamp assembly of the combination of

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Cohen and Otsuka with a preset impedance value of the inductance in the extension means at an expected percentage relative to that of the external ballast circuit, or in a range between 5% and 30% as claimed, for a desired power control of the lamp would have been deemed obvious to a person skilled in the art of power electronics.

With respect to claim 3, as to the best interpretation, the combination of Cohen and Otsuka disclose all of the claimed limitations, as expressly recited in claim 1, except for the gas pressure in the discharge vessel being between  $2.10^5$  and  $3.10^5$  Pa. However, this operation range of the gas pressure is not of patentable merit since it has been commonly known that it relates to the efficiency of the light conversion and that discovering such a working range involves only routine skill in the art. Therefore, to arrange and operate the gas pressure in the lamp of the combination of Cohen and Otsuka at a pressure level between  $2.10^5$  and  $3.10^5$  Pa in order to enhance the luminance of the lamp would have been deemed obvious to a person skilled in the art.

With respect to claim 4, as to the best interpretation, the combination of Cohen and Otsuka disclose a ratio of the length of the extension means [5] to the length of the low-pressure mercury vapor discharge lamp, which is a range of between 0.8 and 0.98 (see Cohen; col. 1, lines 52-55).

With respect to claim 5, the combination of Cohen and Otsuka disclose that the rare gas mixture in the discharge vessel of the low-pressure mercury vapor discharge lamp comprises 80% by volume of krypton (see Otsuka; col. 2, line 61).

With respect to claim 6, the combination of Cohen and Otsuka disclose that the extension means [5] forms an integral part of the low-pressure mercury vapor discharge lamp (see Cohen; Fig. 1).

With respect to claim 7, the combination of Cohen and Otsuka disclose all of the claimed limitations, as expressly recited in claim 1, except that the elongate extension means comprises two elongate extension parts, and the length of the low-pressure mercury vapor discharge lamp together with the lengths of the two extension parts are adapted to fit the predetermined mounting distance of low-pressure mercury vapor discharge lamps. This means that one more extension part should be arranged at the other end of the lamp without changing the final length of other standard lamps. However, the combination teaches that the arrangement of the extension means can save power consumption (see Cohen; col. 1, lines 30-34 and col. 2, lines 8-20). For this concept of arranging an extension part at one end of the lamp with its corresponding advantage of the teachings of the combination of Cohen and Otsuka, to configure two elongate extension parts at the two ends of the lamp to enhance power savings would have been regarded as an obvious development to a person skill in the art.

***Allowable Subject Matter***

10. Claims 8-10 and 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claim 11 would be allowable following the allowability of claim 8 if corrected to overcome the rejection under 35 U.S.C. 112, second paragraph set forth above.

12. The following is a statement of reasons for the indication of allowable subject matter:



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Prior art fails to disclose or fairly suggest:

- An assembly of an elongate low-pressure mercury vapor discharge lamp characterized in that the extension means is provided with an indicator means for indicating the status of the connection between the extension means on the one hand and an external ballast circuit and an external starter circuit for the low pressure mercury vapor discharge lamp on the other hand, in combination with the remaining claimed limitations as called for in claim 8 (claims 9-12 would be allowable since they are dependent on claim 8);
- An assembly of an elongate low-pressure mercury vapor discharge lamp characterized in that the extension means comprises an automatic switching adapter providing that, after the extension means have been connected to the low-pressure mercury vapor discharge lamp and the assembly has been placed in a standard external ballast circuit and a standard external circuit, the inductance is automatically connected to the external ballast circuit independently of installation orientation, in combination with the remaining claimed limitations as called for in claim 13.

*Citation of relevant prior art*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Prior art Van Duivendijk et al. (U.S. Patent No. 6,465,960 B2) discloses a capped electric lamp and low-pressure mercury-vapor discharge lamp;

Prior art Jin et al. (U.S. Patent No. 6,400,097 B1) discloses a low wattage fluorescent lamp;

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Prior art Auber et al. (U.S. Patent No. 6,369,502 B1) discloses a low-pressure mercury vapor discharge lamp;

Prior art De Bot et al. (U.S. Patent No. 6,304,029 B1) discloses a low-pressure mercury vapor discharge lamp;

Prior art Keim et al. (U.S. Patent No. 6,002,200) discloses a capped electric lamp;

Prior art Robertson et al. (U.S. Patent No. 5,904,415) discloses a fluorescent bulb connector assembly;

Prior art Roche (U.S. Patent No. 5,247,228) discloses a fluorescent lamp ballast adapter;

Prior art Desclos (U.S. Patent No. 5,013,962) discloses a fluorescent lamp;

Prior art Northrop (U.S. Patent No. 4,758,173) discloses a socket for fluorescent lamp;

Prior art Win (U.S. Patent No. 3,808,495) discloses an elongate lamp tube; and

Prior art Larson et al. (U.S. Patent No. 3,290,538) discloses a low-pressure mercury vapor discharge lamp; and

### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -4:00 PM).

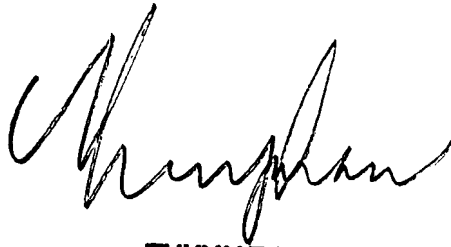
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

04/30/2007

A handwritten signature in black ink, appearing to read 'Thuy V. Tran', is positioned above the printed name and title.

**THUY V. TRAN**  
**PRIMARY EXAMINER**